



# THE DATASHEET OF MICROSMD450LR-2



**Specification Status: Released**

**Maximum Electrical Rating**

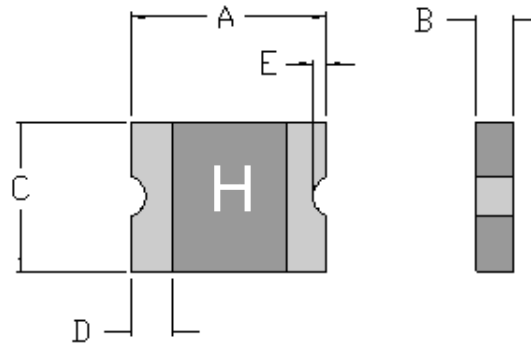
**Voltage: 5.0V<sub>DC</sub>**  
**Short Circuit Current: 50A**

**Notes:**

1. Termination Finish: NiAu
2. Drawing not to scale
3. For battery application only

**Marking:**

H



**TABLE I. DIMENSIONS:**

	A		B		C		D		E
mm:	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
in:	(0.118)	(0.135)	(0.019)	(0.039)	(0.092)	(0.110)	(0.010)	(0.030)	(0.003)

**TABLE II. PERFORMANCE RATINGS:**

CURRENT RATINGS**						TIME TO TRIP**	RESISTANCE VALUES		TRIPPED-STATE POWER DISSIPATION**
AMPERES AT 0°C		AMPERES AT 20°C		AMPERES AT 60°C		SECONDS AT 20°C, 25.0A	OHMS AT 20°C		WATTS AT 20°C, 5.0V
HOLD	TRIP	HOLD	TRIP	HOLD	TRIP	MAX	MIN	MAX*	MAX
5.5	11.0	4.5	9.0	3.2	7.0	2.0	.002	.008	1.0

\* Maximum resistance is measured 24 hours after reflow.

\*\* Values Specified were determined using PCB's with 0.115" x 1.0 ounce copper traces.

Agency Recognition: UL

Reference Document: PS300

Precedence: This specification takes precedence over documents referenced herein.

Effectivity: Reference documents shall be the issue in effect on the date of invitation for bid.

CAUTION: Operation beyond the rated voltage or current may result in rupture, electrical arcing or flame.

**Materials Information**

**ROHS Compliant**

Directive 2002/95/EC  
Compliant

**ELV Compliant**

Directive 2000/53/EC  
Compliant

**Pb-Free**

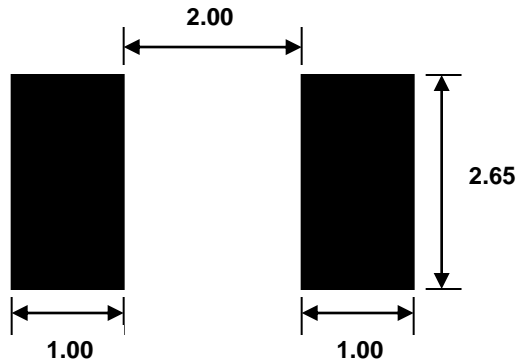


**Halogen Free\***



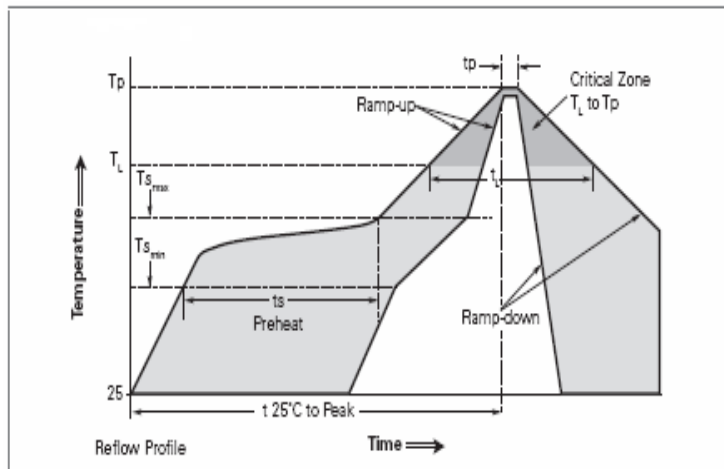
\* Halogen Free refers to: Br≤900ppm, Cl≤900ppm, Br+Cl≤1500ppm.

Recommended pad layout (mm.)



Recommended reflow profile

Profile Feature	Pb-Free Assembly
<b>Average ramp up rate (<math>T_{s_{max}}</math> to <math>T_p</math>)</b>	3°C/s max.
<b>Preheat</b>	
• Temperature min. ( $T_{s_{min}}$ )	150°C
• Temperature max. ( $T_{s_{max}}$ )	200°C
• Time ( $t_{s_{min}}$ to $t_{s_{max}}$ )	60-120s
<b>Time maintained above:</b>	
• Temperature ( $T_L$ )	217°C
• Time ( $t_L$ )	60-150s
<b>Peak/Classification temperature (<math>T_p</math>)</b>	260°C
<b>Time within 5°C of actual peak temperature (<math>t_p</math>)</b>	30s max.
<b>Ramp down rate</b>	2°C/s max.
<b>Time 25°C to peak temperature</b>	8 mins max.



Note: All temperatures refer to top side of the package, measured on the package body surface.

#### Solder reflow recommendation

- Recommended reflow methods: IR, hot air and Nitrogen
- Recommended maximum solder paste thickness: 0.25mm
- Recommended minimum stencil thickness: 0.1mm
- Devices can be cleaned using standard methods and aqueous solvents.
- Littelfuse believes the optimum conditions for forming acceptable solder fillets occur when a reasonable amount of solder paste is placed underneath each device's termination. As such, we request that customers comply with our recommended solder pad layouts.
- Customer should validate that the solder paste amount and reflow recommendations meet its application.
- Littelfuse requests that customer board layouts refrain from placing raised features (e.g. vias, nomenclature, traces, etc.) underneath PolySwitch devices. It is possible that raised features could negatively impact solderability performance of our devices.



Expertise Applied | Answers Delivered

**PolySwitch®**  
**PTC Devices**  
**Overcurrent Protection Device**

**PRODUCT: microSMD450LR-2**

DOCUMENT: SCD28608  
REV LETTER: D  
REV DATE: JULY 26, 2016  
PAGE NO.: 3 OF 3

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